Mehrnaz Ayazi

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Education

University of California, Riverside **Jan. 2021 –Present**
Ms in Computer Science - PhD Candidate in Computer Science *Riverside, CA*

Amirkabir University of Technology **Sep. 2014 – Jul 2019**
Bachelor of Science in Computer Engineering *Tehran, IR*

Experience

Internships

DreamWorks Animation *Jun - Aug 2023, 2024*

- Conducted an extensive **literature review** to assess contemporary methodologies in the field of hair simulation.
- Contributed to the development of a **prototype for hair simulation** by implementing principles from the research paper titled "Interactive Hair Simulation on the GPU Using ADMM"
- Continued development of the Multi-style Lagrangian Neural Style Transfer project, focusing on aligning the tool with artists' needs.(Summer 2024)

Max Planck Institute for Software Systems(MPI-SWS) *Spring 2020*

- Collaborated on a **three-month research project** in the domain of **reinforcement learning**.
- Focused on designing and implementing strategies to **encourage agents to provide accurate data** in using Shapley values under the supervision of **Dr. Goran Radanovic**.

Shanghai University of Finance and Economics(SUFE) *Fall 2019*

- Engaged in research focusing on **stochastic learning** challenges during a one-month visiting scholar program at SUFE, with the valuable guidance and supervision of **Dr. Nick Gravin**.

CafeBazaar summer camp *Summer 2018*

- Collaborated with a team of five to **conceptualize and develop a website** tailored for programming classes, with a specific focus on serving Farsi-speaking users. Bazaar had a user base of approximately **30 million users** during this internship.

Teaching

Teaching Assistant - Graduate Courses

- Scientific Computing(Fall 2022,Fall 2023)
- Computer Graphics (Winter 2023)

Teaching Assistant - Undergraduate Courses

- Introduction to Computing(Winter 2022)
- Principles of Web Development(Spring 2022)
- Computer Graphics(Summer 2022)

Relevant Coursework

- Convex Optimization
- Artificial Intelligence
- Data Mining techniques
- Scientific Computing
- Design and Analysis of Algorithms
- Numerical Analysis
- Game Theory
- Number Theory
- Graph Theory
- Statistics
- Engineering Economics

Projects

Simplified conservative discretization of the Cahn-Hilliard-Navier-Stokes equations (Jason Goulding, Mehrnaz Ayazi)

- The project involves the development and implementation of an innovative method for solving Cahn-Hilliard equations utilizing the Helmholtz equation

Phase seperation in Cahn-Hilliard equation in material point method

- The project introduces phase separation to the Material Point Method (MPM) by incorporating the Cahn-Hilliard equation, addressing the challenge of simulating two-phase fluids.
- This addition broadens MPM's capabilities in handling materials that exhibit both solid and fluid characteristics.

Multi-style Lagrangian Neural style transfer

- Developed a method to style fluid simulations using multiple style images based on selected attributes (e.g., velocity, turbulence, artist guides).
- Aim to enhance: • Artist control • Temporal coherence • Precision in localized stylization

Technical Skills

Languages: , C/C++, Python, HTML/CSS, SQL, Java
Tools: Shell Scripting, MongoDB, MySQL, Linux(Ubuntu), Houdini(Familiar)
Natural Languages: Persian(Native), French(Intermediate), Arabic(Familiar)

Leadership/Extracurricular/Awards

- President of Graduate Student Association in Computer Science department at UC, Riverside
- Awarded a full scholarship by UC, Riverside Computer Science department for Grace Hopper Conference
- Awarded a full scholarship by Computing Research Association to attend CRA-WP women cohort 2023
- General Volunteer at MESA UCR
- IT Systems Admin at CEIT Computer Site at Amirkabir University of Technology(Jan - Jul 2016)
- Technical Staff in Linux Festival held by Computer Engineering Department, Amirkabir University of Technology
- Technical staff in ACM programming contests for 3 years